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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/707,395	12/10/2003	Ming-Hsien Tsai	MTKP0102USA	1394

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NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION
P.O. BOX 506
MERRIFIELD, VA 22116

EXAMINER	
HALEY, JOSEPH R	

ART UNIT	PAPER NUMBER
2627	

NOTIFICATION DATE	DELIVERY MODE
10/02/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

winstonhsu.uspto@gmail.com
Patent.admin.uspto.Rcv@naipo.com
mis.ap.uspto@naipo.com.tw

Office Action Summary	Application No.	Applicant(s)	
	10/707,395	TSAI, MING-HSIEN	
	Examiner	Art Unit	
	JOSEPH HALEY	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,5-10 and 12-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3, 5-10 and 12-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3, 8-10 and 15-22 are rejected under 35 U.S.C. 103(a) as being obvious over Fukumoto et al. (US 6493296) in view of Yoshimoto (US 7190645) further considered with Ueyama (US 6392965).

In regard to claims 1, and 19-22, Fukumoto et al. teaches a tilt servo for adjusting a tilt angle between the optical disc and the object lens (column 7 lines 56-62); an optical electric integrated circuit (OEIC) for detecting light reflected from the optical disc (fig. 3); a DPD generator for generating a differential phase detection (DPD) signal according to the output of the OEIC (fig. 3 element 51); and a tilt search block receiving the DPD signal and being connected to the tilt servo, wherein the tilt search block controls the tilt servo to adjust the tilt angle between the optical disc and the object lens according to the DPD signal (column7 lines 46-55) but does not control the tilt to the angle having the lowest amplitude DPD signal.

Yoshimoto teaches controlling the tilt so the phase difference between two photodetectors is 180 degrees (see fig. 4 element S4 and fig. 2 elements 32 and 33. A phase difference of 180 degrees would correspond to a zero amplitude of phase

difference) but does specifically teach the two photodetector arrangement as shown in fig. 2 is one used for differential phase detection.

The two are analogous art because they both deal with the same field of invention of controlling tilt in optical media.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of Fukumoto et al. with the phase correction of Ma et al. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Fukumoto et al. with the phase correction of Yoshimoto because it would help adjust the apparatus to a level state.

Ueyama teaches using a two photodetector arrangement for differential phase detection (see fig. 12a and column 8 lines 50-54).

The three are analogous art because they all deal with the same field of invention of controlling tilt in optical media.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of Fukumoto et al. with tilt correction of Yoshimoto and the two photodetector arrangement for differential phase detection of Ueyama. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Fukumoto et al. with tilt correction of Yoshimoto and the two photodetector arrangement for differential phase detection of Ueyama because it would create a DPD system with fewer parts.

In regard to claims 3 and 10, Fukumoto et al. teaches wherein the tilt search block further comprises an analog to digital converter to convert the DPD signal to a

digital DPD signal, and the tilt search block controls the tilt servo to adjust the tilt angle between the optical disc and the object lens according to the digital DPD signal (see fig. 3, Fukumoto et al. teaches digital circuitry, therefore it is inherent that there is an A/D converter).

Method claims 8 and 9 are drawn to the method of using the corresponding apparatus claimed in claim 1. Therefore method claims 8 and 9 correspond to apparatus claim 1 and are rejected for the same reasons of anticipation as used above.

In regard to claims 15 and 17, Fukumoto et al. teaches wherein the tilt search block is further for finding the optimal tilt angle by comparing only different amplitudes of the signal corresponding to different tilt angles (figs. 4 and 5).

In regard to claims 16 and 18, see claim 9 rejection above.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukumoto et al. and Ma et al. in view of Scheffler (US 5021893).

In regard to claim 2, Fukumoto et al. and Ma et al. teach all the elements of claim 2 except wherein the amplifier amplifies the signal to a maximum allowable input level.

Scheffler teaches wherein the amplifier amplifies the signal to a maximum allowable input level (column 8 lines 26-31).

The three are analogous art because they all deal with the same field of invention of recording data.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of Fukumoto et al. and Ma et al. with the amplifier of Scheffler. The rationale is as follows: At the time of invention it would have been

obvious to provide the apparatus of Fukumoto et al. and Ma et al. with the amplifier of Scheffler because using the maximum allowable input signal decreases the chance of an error.

Claims 5-7 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukumoto et al. and Ma et al. in view of Gleim (US 4888754).

In regard to claims 5-7 and 12-14, Fukumoto et al. and Ma et al. teach all the elements of these claims except the use of coarse and fine adjustment of the tilt.

Gleim teaches the use of coarse and fine adjustment to control reproduction of data on an optical disc (column 1 lines 44-53).

The three are analogous art because they all deal with the same field of invention of reproducing from optical media.

At the time of invention it would have been obvious to one of ordinary skill in the art to provide the apparatus of Fukumoto et al. and Ma et al. with the coarse and fine adjustment of Gleim. The rationale is as follows: At the time of invention it would have been obvious to provide the apparatus of Fukumoto et al. and Ma et al. with the coarse and fine adjustment of Gleim because by using coarse and fine adjustment, the tilt angle can be more accurately realized due to a specific servo that is designed for small movements.

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSEPH HALEY whose telephone number is (571)272-0574. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on 571-272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Joseph H. Feild/
Supervisory Patent Examiner, Art Unit 2627

jrh